KIBe-E

User´s Manual

exemys

ISO 9001:2000

Devices Approved By

LISTED UL60950
16WU

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For that reason, the specifications and capabilities are subject to change without prior notice.
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Chapter 1

Introduction

1.1 The Manual

1.1.1 Purpose of the manual

The purpose of this manual is to provide instructions for the fast and simple installation and operation of KIBe-E over you Ethernet network.
The manual starts with the product description and then provides instructions for proper installation of its hardware. Later on, the manual includes detailed information on KIBe-E configuration and operation.

1.1.2 Conventions, terms and acronyms

The acronyms used in this manual are listed in Table 1.

Table 1 - Acronyms

Acronym	Description
t	Address Resolution Protocol
Bps	Bits per second
HTTP	Hyper Text Transfer Protocol
IP	Internet Protocol
LAN	Local Area Network
PC	Personal Computer
TCP	Transmission Control Protocol
DHCP	Dynamic Host Configuration Protocol
POP3	Post Office Protocol
SMTP	Simple Mail Transfer Protocol
E-Mail	Electronic Mail
GND	Ground
DNS	Domain Name Server

The conventions listed below are used in this manual.

Table 2 - Conventions

Convention	Description
`A|B|C`	A set of possible values for command parameters. You can type A, B or C.
`n..m`	A range of possible values. You can type any value in the range including n and m.
`(text)`	Any text, such as a server address.
`aaa.bbb.ccc.ddd`	An IP Address.

1.2 Product Description

KIBe-E is a system featuring alert notifications of events produced in different types of electric and electronic devices. It can receive e-mail messages and act accordingly at the outputs, or inform of the overall status of inputs/outputs.
It receives e-mail messages for the following purposes:

- To modify the status of an output
- To send a pulse to an output
- To inform through another e-mail message of inputs/ outputs status.

For the purposes of sending e-mail messages, KIBe-E continuously analyzes the occurrence of events at its inputs, or the reception of an e-mail message to inform of the status of its inputs/outputs or notification. The following events can trigger an e-mail message:

- A change at one of its inputs
- Changes at some of its inputs
- Inputs/outputs status report
- Report on correct or incorrect execution of commands received via e-mail.

To such effect, KIBe-E features a 10BaseT Ethernet interface, a serial port and a set of inputs and outputs.
At any time, and provided user knows the access code, he can access the KIBe-E command console via a serial port o a Telnet session to observe its operation or to alter the device behavior by changing its configuration parameters.
KIBe-E uses the SMTP protocol to send e-mail and a POP3 server account to receive e-mail, both of which are fully configurable.

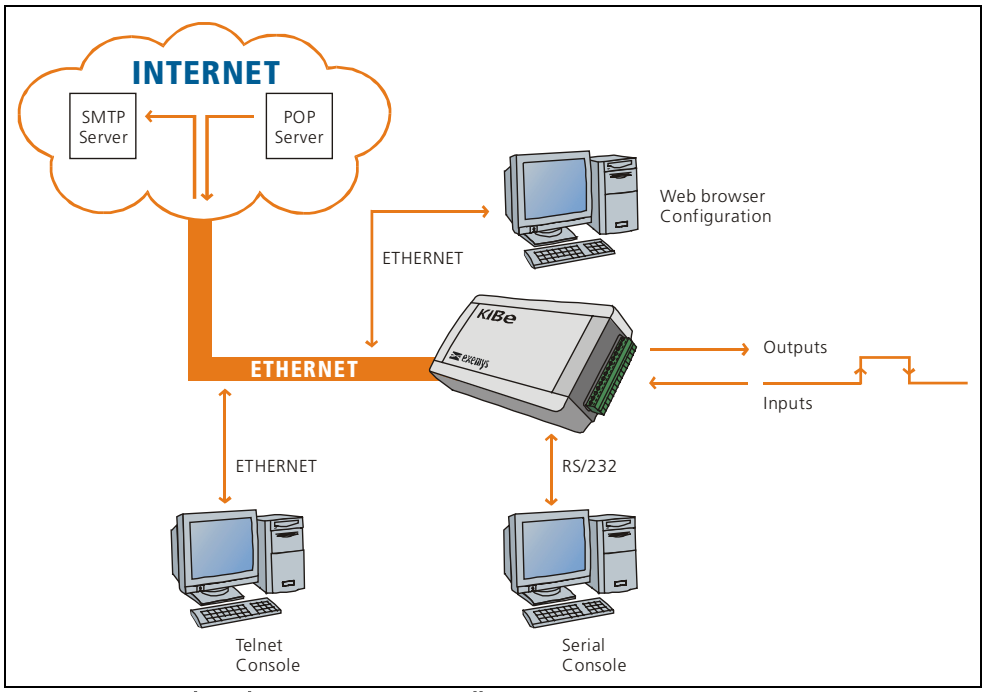


Figure 1 - General Application Diagram Installation

1.3 Power Connection

This product must be installed and powered according to its ratings and installation instructions. The unit shall be powered from a NEC class 2 source of supply or a LPS source, having an output rated 9-26 Volts AC, 9-30 Volts DC, 200 mA min.
The installation of this product inside shall be in accordance with the NEC, specifically Article 725-54. Wiring from/to this unit is to be Class 2 wiring and shall be segregated from other wiring in the equipment as noted in the NEC.

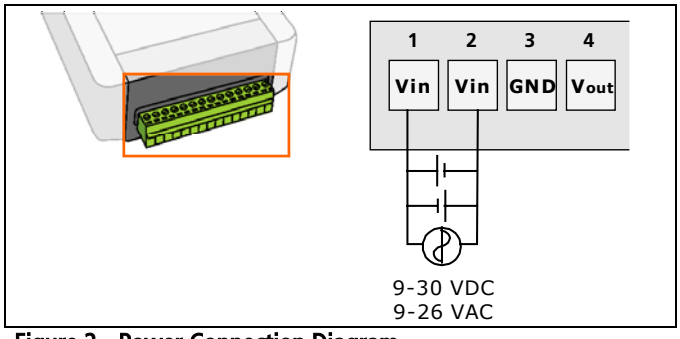


Figure 2 - Power Connection Diagram

1.4 I/O Configuration

The product code indicates the amount of inputs /outputs provided by KIBe.

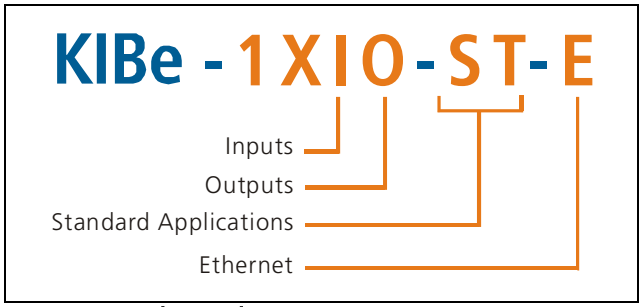


Figure 3 - Product Code Diagram

Table 3 - I/O Configuration

Model	I/O Configuration	
	Inputs	Outputs
KIBe-1083-ST-E	8	3

Figure 4 shows the location in the inputs/outputs connector, as per the model.
As it can be observed, the inputs are located adjacent to the first 4 connectors: Vin(1), Vin(2), GND(3) and V+(4).
The outputs are located immediately after the inputs. Both are numbered starting at 0.
Consequently, the first input will be I0 and, accordingly, the first output will be O0.

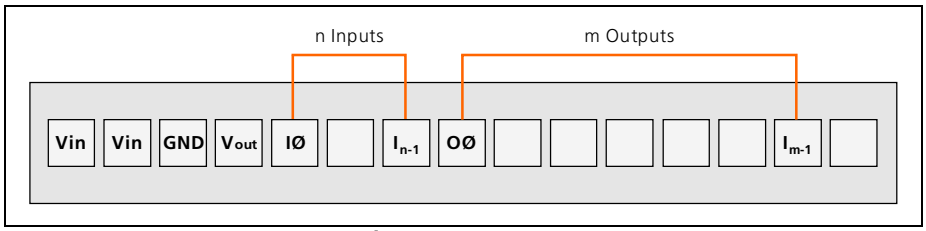


Figure 4 - Inputs/Outputs position diagram

A reference (GND) and a voltage output (V_{out}) are also available in connectors 3 and 4 respectively.
They enable to close the inputs electric circuit, as observed in figure 5.

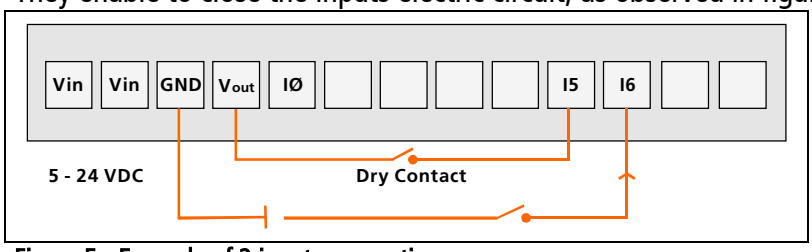


Figure 5 - Example of 2 inputs connection

1.5 Serial Connection

The serial connection enabled access to the serial command console for configuration and operation. The serial connection named COM A may be RS-232 in KIBe-1083-ST-E .

1.5.1 RS-232 Serial Connection

Figure 6 shows the position of COM A connector for RS-232 interface. It is a DB9 male connector.

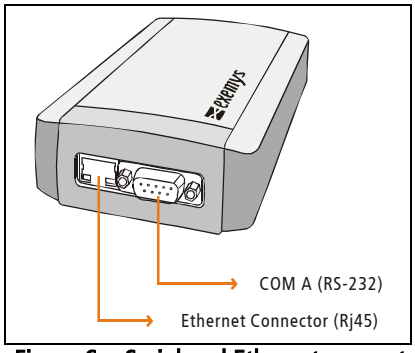


Figure 6 - Serial and Ethernet connectors position

The connection can be made with a PC, using the cable shown in figure 7.

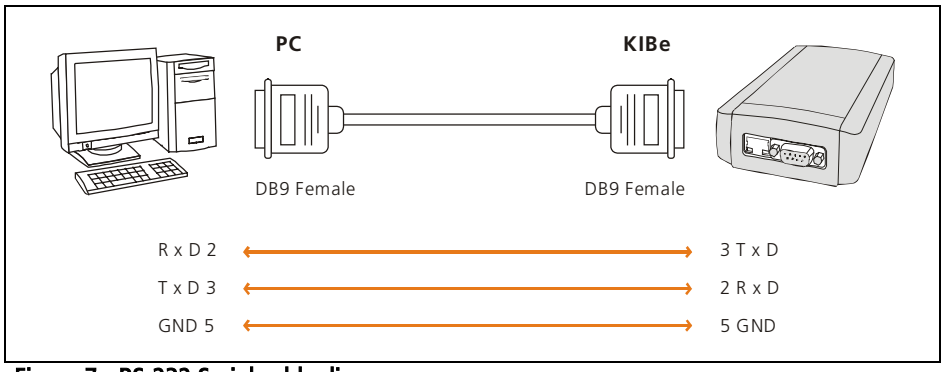


Figure 7 - RS-232 Serial cable diagram

1.6 Ethernet Connection

RJ45 connector is used for the Ethernet connection. It is located adjacent to the COM A DB9 connector, as it may be observed in figure 6.
The Ethernet connection is essential for KIBe-E to operate. Generally, it can be connected to a Hub or Switch, or directly to a PC, without the need for a LAN.

1.6.1 Hub or Switch Connection

A UTP network cable is used to connect KIBe-E to the Ethernet through a Hub or Switch.

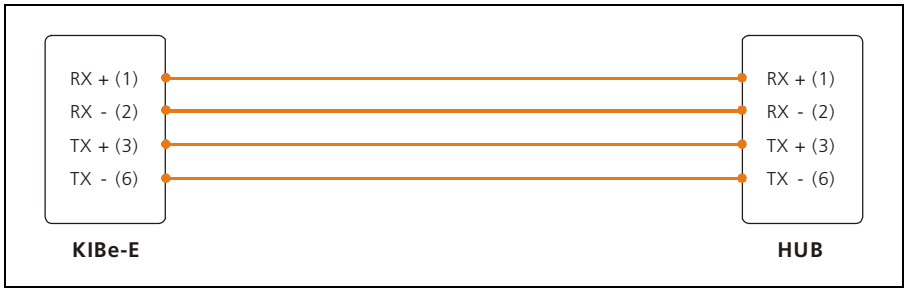


Figure 8 - Ethernet Connection through a Hub or Switch

Chapter 2

Configuration and Operation

2.1 Getting Started

The first step consists in obtaining an IP address for KIBe-E, by any of the following means:

- Using the Device Locator application program (most recommended method).
- Forcing an IP address entry to the ARP table.
- Locally, by accessing the command console provided by KIBe-E, at the serial connection.

Once KIBe-E has an IP address, the rest of the parameters can be configured:

- By accessing the configuration web page of the equipment (most recommended method).
- Using the TCP command console.
- Locally, by accessing the command console provided by KIBe-E, at the serial connection.

All configuration parameters are permanently stored in the memory and will be maintained even in the event the equipment shuts down. Configuration parameters may be modified at any time using any of the methods mentioned above.

2.1.1 IP Address Configuration

KIBe's default configuration is IP 0.0.0.0, so when turned on, it will search for a DHCP server. KIBe-E tries to negotiate an IP address with the DHCP server for a maximum period of 10 seconds. If the DHCP server fails to answer in that period, KIBe-E will show an error code by means of its indicator LEDs (see annex) and will try to establish connection with the DHCP server 60 seconds later. This process will be repeated indefinitely until a DHCP server assigns an IP address to KIBe-E or until the user assigns a static IP address. During the negotiation process, KIBe's yellow LED is steady on.
In the event it is decided that KIBe-E should have a static IP number (not assigned by a DHCP server), one can be assigned by means of the ARP method.
If KIBe-E receives, within 7 seconds after being turned on, an ICMP packet through a ping, it will take the destination IP of this packet, provided it is different from that configured in KIBe-E.
To this effect, an entry can be added to the ARP table of a PC in the network.

The Windows ARP table must have at least one IP address other than its own in order for the ARP command to work. Be sure the ARP table has at least one entry with the command:

```
arp –a
```

If the local machine is the only entry, send a ping to another device in the network.
Then add the entry to the ARP table of the PC, entering the following command:

```
arp -s 192.168.0.105 00-90-C2-XX-XX-XX
```

In Unix, the command to add an entry to the ARP table is the following:

```
arp -s 192.168.0.105 00:90:C2:XX:XX:XX
```

Send a ping to the IP address you added to the ARP table on the previous step, by entering the following command:

```
ping 192.168.0.105 –t
```

The –t option will cause the ping to be continuously sent.
Turn KIBe-E on. The equipment will only respond after a few seconds. Once KIBe-E has responded to the ping, it will have access to the equipment over the network.

2.1.2 Access to the configuration Web Page

Once KIBe-E has a valid IP address, you can access the web page to set up the rest of the parameters. Use a Java-enabled web browser.
If your web browser is set to use a Proxy server, disable the option.
Enter KIBe-E IP address in the address field of your browser.

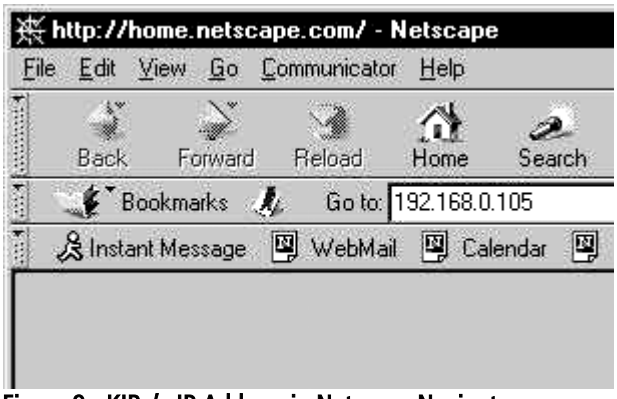

http://home.netscape.com/ - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search
Bookmarks Go to: 192.168.0.105
Instant Message WebMail Calendar

Figure 9 - KIBe's IP Address in Netscape Navigator

KIBe-E will request you to enter the administrator password to access the page. Enter "admin" in the user field and the administrator password to access the page.

You will see KIBe-E configuration page on your browser. The menu will be displayed on the left, and the general configuration page on the right hand side of the screen.

2.1.3 Access to the Command Console through Telnet

KIBe-E command console can be accessed through a Telnet session. Establish a Telnet connection to port 23. In Windows, open a command window and enter the following command:

```
telnet 192.168.0.105
```

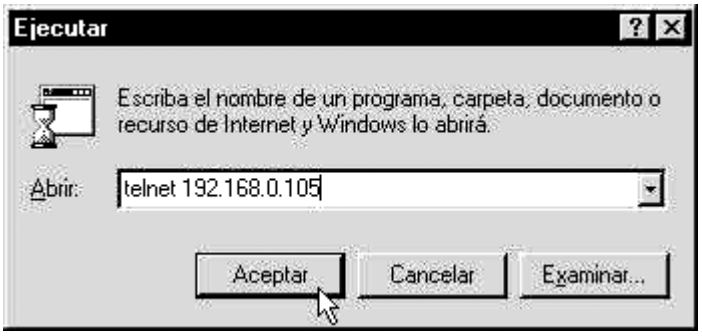


Figure 10 - Open a telnet session

Once the connection has been established, KIBe-E will bring up a command console welcome message.

```
Without preset access code
KIBe-E - Exemys (V2.0):
---------------------
>

With access code
KIBe-E - Exemys (V2.0):
---------------------
Password:
```

If the administrator password was set, it will be requested to you through the sign: "Password:" If you fail to enter the password, after three attempts the console will be blocked for 5 seconds and then it will request the password again.

2.1.4 Serial Command Console

Locally, you can access the serial port command console by connecting KIBe-E to a RS-232 port of a PC. To such effect, you must have a serial terminal program (Windows HyperTerminal or the like).
The communications program must be set as follows: 9600 bps, Parity: None, Data bits: 8, Stop bits: 1 and flow control: none (9600,N,8,1).

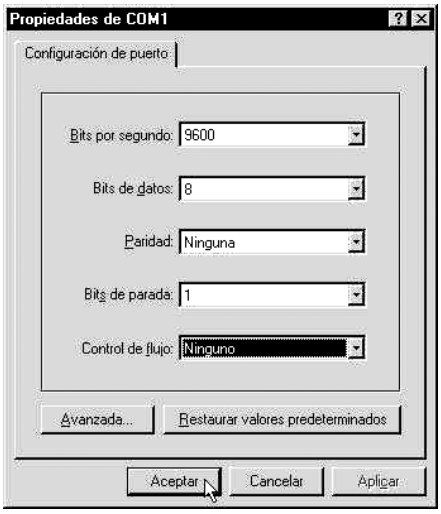


Figure 11 - HyperTerminal Configuration window

Once it has been connected, whenever you turn KIBe-E on, you will see the command console welcome message.

```
KIBe-E - Exemys (V2.0):
----------------------
>
```

The only difference between the serial and the Telnet consoles is that the first one is always active. It is not necessary to shut down KIBe-E to enter commands. If you connect the serial port to a PC and you access the terminal program while KIBe-E is on, the serial console will be active. Press ENTER once and you will see the ">" symbol that indicates that the console is waiting for a command.

2.1.5 Configuration of Network Basic Parameters through the console

Once you access the console, you can change the network configuration parameters with the following commands: **IP, NETMASK, GATEWAY, FSTDNS and SNDDNS.** If you want to change the KIBe-E IP address, Netmask and / or Gateway, you can enter the commands to modify these parameters. But then you must enter the **END** command so the changes take effect. When the **END** command is executed, KIBe-E will detect that any of these three basic parameters has been changed and the system will be restarted. If the console is run from a Telnet session, the communication with the equipment will be interrupted. You must reopen the Telnet session using the new IP address.

- To change the **IP address**, enter the following command:

```
>ip:192.168.0.110
Ok, IP Address       192.168.0.110
NOTICE, This parameter will be accepted upon execution of the END command.
At that moment, communication with the equipment will be interrupted.
If you are not sure, close communication without typing the END command.
>_
```

- To change the **netmask**, enter the following command:

```
>netmask:255.255.255.0
Ok, Netmask          255.255.255.0
NOTICE, This parameter will be accepted upon execution of the END command.
At that moment, communication with the equipment will be interrupted.
If you are not sure, close communication without typing the END command.
>_
```

- You can change the Gateway using the gateway command. Enter the following command:

```
>gateway:192.168.0.200
Ok, Gateway          192.168.0.200
NOTICE, This parameter will be accepted upon execution of the END command.
At that moment, communication with the equipment will be interrupted.
If you are not sure, close communication without typing the END command.
>_
```

KIBe-E provides two inputs for DNS servers (the first and the second servers). Use the fstdns command to change the IP address of the first DNS server, and the snddns command to change the IP address of the second DNS server:

```
> fstdns:192.168.0.200
OK, First DNS     192.168.0.200

> snddns:0.0.0.0
OK, Second DNS    0.0.0.0

>_
```

Enter the END command for KIBe-E to accept the network parameter changes. You will lose communication with the equipment if the commands were entered from the Telnet console.

2.2 KIBe-E Operation

2.2.1 Administrator Configuration

KIBe-E has a security password system featuring report of events to a system administrator. The following is the administrator's data:

- Administrator Password.
- Administrator's e-mail address.

Any of the two can be disabled by not entering information at the moment of configuration. KIBe's factory default setup has both security options disabled.
The administrator password will be required to access both the Telnet command console and the equipment configuration web page and to execute the commands sent to KIBe-E via e-mail.

To change de administrator data from the configuration web page:

- Select "Administrator" from the menu on the left.
- On the right hand side of the page you will see boxes to enter the administrator's e-mail address and password (which must be entered twice). Enter the administrator data: e-mail address and password.
- Press "Send" for KIBe-E to accept the configuration changes.

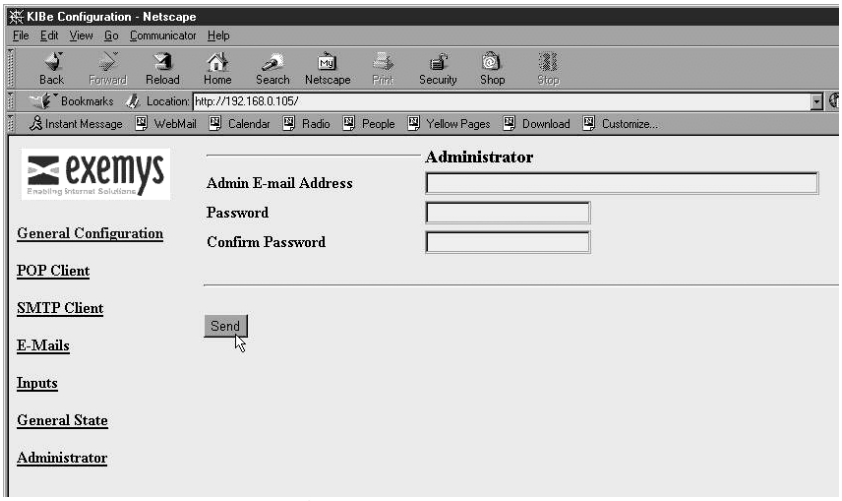


Figure 12 - Administrator configuration page

To change de administrator data from the command console: enter the **ADMINPASS** command in the console to change the administrator password. You can use the **ADMINEMAIL** command to change the e-mail address of the administrator.

Table 4 - ADMINPASS and ADMINEMAIL commands

Parameter	Description	Console Command
Administrator e-mail Address	KIBe-E will send an e-mail message to this address after an admistrator notification event occures.	`ADMINEMAIL:(address)`
Administrator Password	KIBe-E will use this password for remote configuration (configuration web page and Telnet command console) and POP commands.	`ADMINPASS:(pasword)`

```
>adminemail:supervisor@domain.com
OK, Administrator E-mail supervisor@domain.com
>_
```

2.2.2 Sending e-mail Messages from KIBe

One of the basic functions of KIBe-E is to notify events by sending e-mail messages. KIBe-E can be set up to notify certain events. Also, outgoing e-mail messages can be fully configured (Recipient, subject and body of the message).

2.2.2.1 Mode

KIBe-E inputs can operate in Standard or Coded mode.
In Standard mode, KIBe-E waits for changes at any of its inputs. The following are the events that may trigger an e-mail message at an input:

- Detection of beginning of active level
- Duration of active level
- Detection of end of active level

Therefore, in standard mode, KIBe-E can trigger up to three e-mail messages per input.

Each of these three messages can be disabled independently.

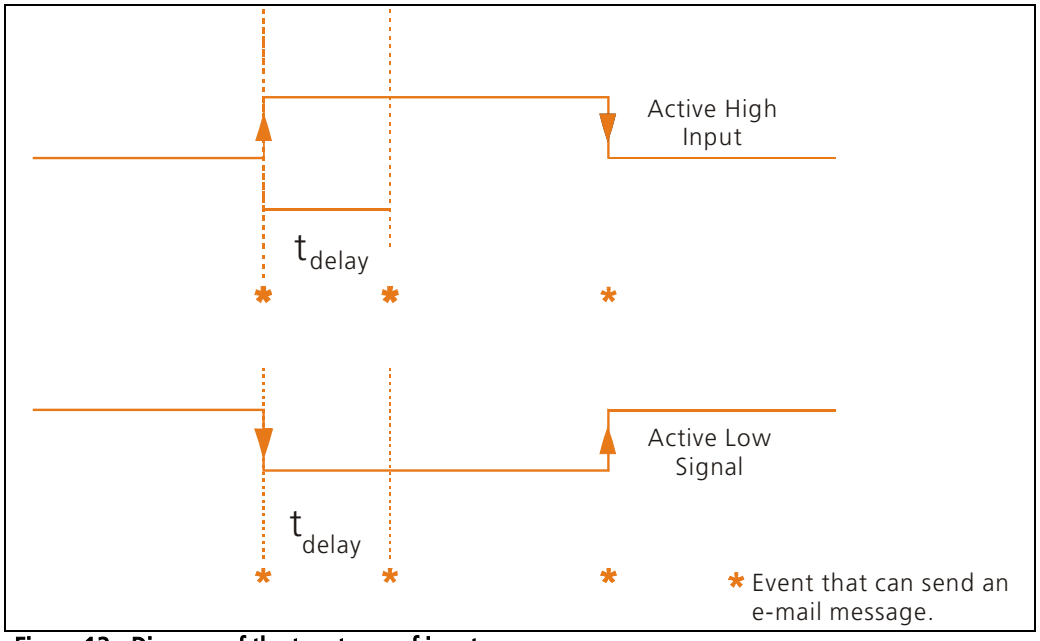


Figure 13 - Diagram of the two types of inputs

In Coded mode, KIBe-E will send an e-mail message when the last input is activated. Inputs between the first (I0) and the one before last will form a binary code that will indicate KIBe-E the number of e-mail message to be sent. Consequently, if KIBe-E has 8 inputs (I0..I7), inputs I0, I1, I2, I3, I4, I5 and I6 will form the message number to be sent, with a total of up to 128 configurable messages (0..127). Input I7 will trigger the coded message number at the rest of the inputs.

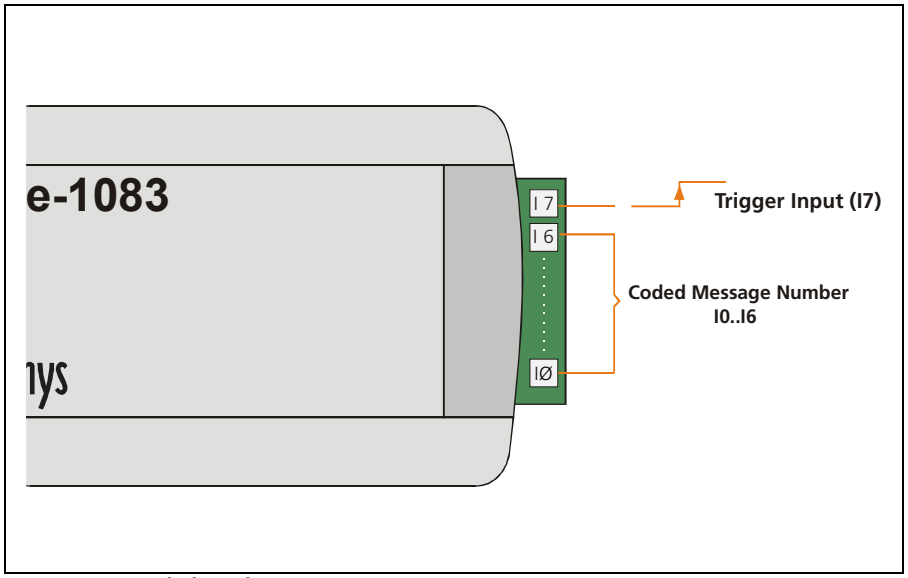


Figure 14 - Coded Mode Diagram

The mode can be set up in KIBe-E from the web page or the command console.

On the web page:

- Select "General Setup" from the menu on the left.
- Select the operation mode of the inputs of the list under "Inputs mode"
- Press "Send" for KIBe-E to accept the new settings.

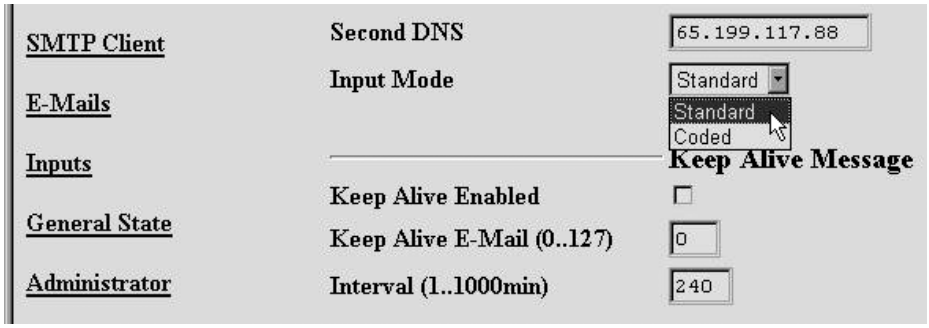


Figure 15 - Input mode configuration from Web page

In the command console, you can change the mode by executing the **INPUTMODE** command.

```
>inputmode:s
OK, Mode         STANDARD
>_
```

2.2.2.2 SMTP Client

You must set up the KIBe-E SMTP client to send e-mail messages. To this effect, you must set up the configuration parameters included in table 5.

Table 5 - SMTP Client

Parameter	Description	Console Command
SMTP enabling	If the SMTP client is enabled, it will send messages as soon as they appear in the outgoing queue. If it is disabled, the messages will remain in the outgoing queue to be sent. Possible Values: E = Enable D = Disable	`SMTPENABLE:(E|D)`
SMTP authentication (*)	Enable this feature only if the target SMTP server requires user authentication. Username and password are those configured in the POP3 client.	`SMTPAUTH: (E|D)`
SMTP Server	Messages will be sent using this SMTP server. 49 characters max.	`SMTPSERVER:(server)`
Maximum Timeout	If the message fails to be sent in this period of time, KIBe-E considers that one attempt has been missed. It is set in seconds. Possible Values: 10..150 seconds	`SMTPTIMEOUT:(10..150)`
Maximum message retries	After this number of retries, KIBe-E will place this message at the end of the outgoing queue and will send the next message of the queue. Possible Values: 3..10 Retries	`SMTPRETRIES:(3..10)`
Retry Interval	It is the time interval, measured in seconds, that KIBe-E will allow between attempts to send the same e-mail message. Possible Values: 1..150 seconds	`SMTPRETRYINT:(1..150)`
Sender	E-mail address from where messages are sent. 49 characters max.	`FROM:(sender address)`

(*) Only available in versions 2.1.9 and higher.

On the web page:

- Select "SMTP Configuration" from the menu on the left.
- The SMTP parameter configuration will be displayed on the right. You can change any of the values.
- Then, press "Send".

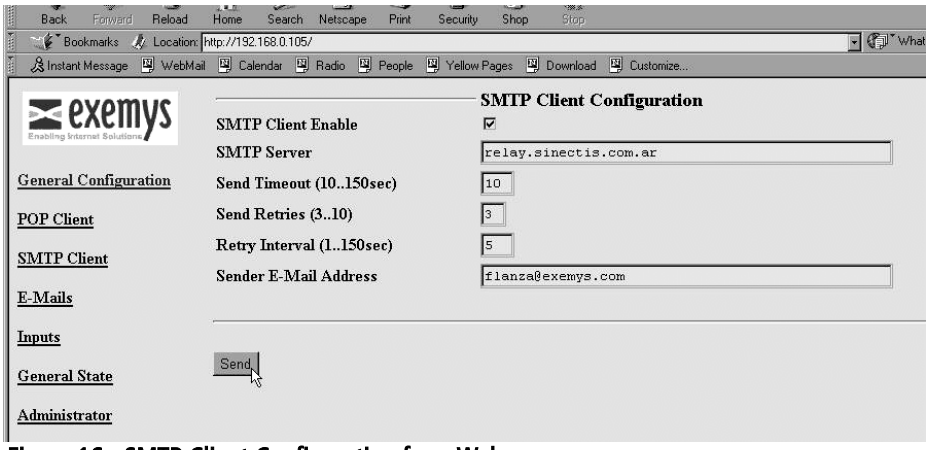


Figure 16 - SMTP Client Configuration from Web page

2.2.3 Input Configuration

In Standard mode, inputs can be configured depending on the message transmission needs and the signal features.
Standard mode input parameters are listed in table 6.

Table 6 - Input configuration

Parameter	Description	Command Console
Input Type	Inputs can be: Low-level active or High-level active.	`INPUTTYPE:(H|L)`
Input start e-mail number	E-mail number to be triggered when an positive edge is detected in a high-level signal or a negative edge is detected in a low-level signal. It must be in the 0 to 127 range.	`INPUTSTARTEM:(0..127)`
Activity level message number	Message number triggered after delay time, when the signal is active. It must be in the 0 to 127 range.	`INPUTACTEM:(0..127)`
Activity end message number	E-mail number to be triggered when a positive edge is detected in a high-level signal or a negative edge is detected in a low-level signal. It must be in the 0 to 127 range.	`INPUTENDEM:(0..127)`

Message triggering delay due to the activity level	It is the period of time, in tenths of a second, that KIBe-E waits before triggering the message to indicate active level at that input. If it is equal to 0, this event is disabled. Possible Values: 0..10000 (1/10 seconds)	`INPUTDELAY:(0..10000)`

On the web page:

- Select "Inputs" from the menu on the left.
- The inputs configuration grid will be displayed on the right. Select the input you wish to set up from the list. Then, KIBe-E will show the configuration data of such input.
- Change any values, as necessary.
- Press "Send" for the equipment to accept the new configuration of that input.
- Repeat the process for each input.

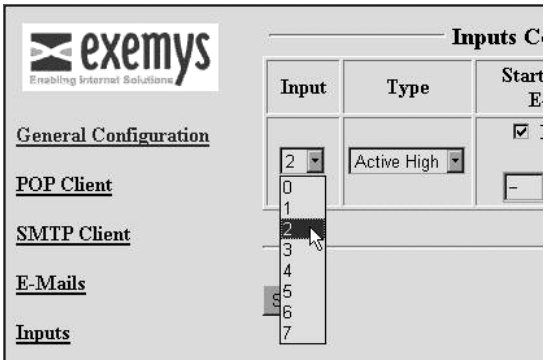


Figure 17 - Input Selection

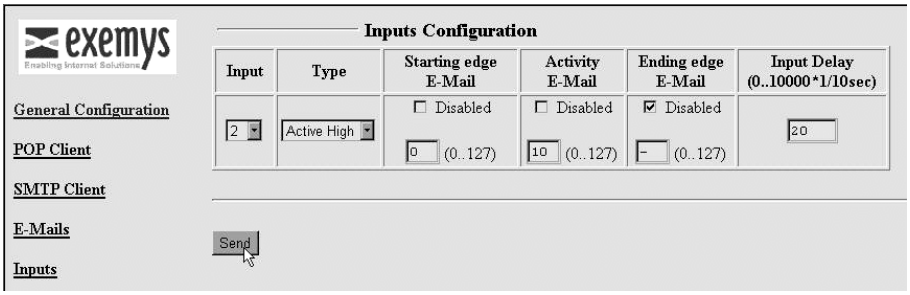


Figure 18 - Input Configuration

2.2.3.1 Message Configuration

KIBe-E stores 128 (numbered from 0 to 127) e-mail messages. The following can be configured:

- Recipients
- Message Subject
- Message Body

On the web page:

- Select "E-Mails" from the menu on the left. The message configuration grid will be displayed on the right.
- Enter the message number you want to configure (from 0 to 127) and KIBe-E will display the configuration data for that e-mail message.
- Change any values, as necessary.
- Press "Send" for the equipment to accept the new message configuration.
- Repeat the process for each message you wish to configure.

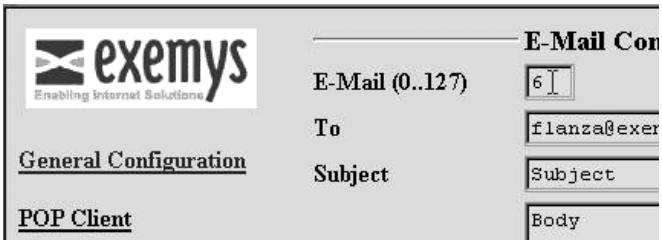


Figure 19 - E-Mail Number selection

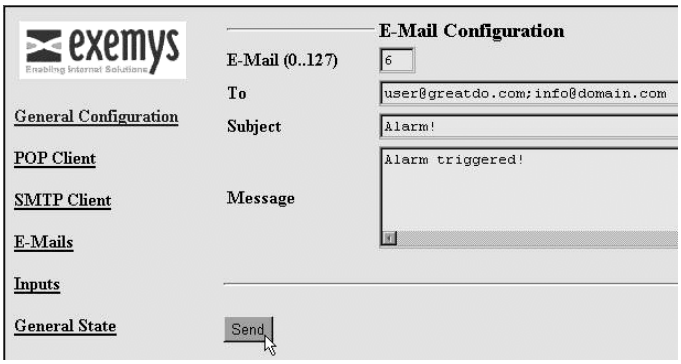


Figure 20 - E-Mail Message Configuration

Messages can be configured from the command console by using the following commands: **TOn, SUBJECTn** and **BODYn.** You can force transmission of a message by entering the **SENDn** command (where n is in the range fron 0 to 127).

2.2.3.2 Keep Alive Message

KIBe-E can be set to send a certain message at a certain interval. Thus, you can realize that KIBe-E has lost communication if the message was not sent.
This option can be enabled or disabled. If you decide to enable it, you can set an interval in minutes and KIBe-E will send one of the 128 e-mail messages at the set interval.

On the web page:

- Select "General Setup" from the menu on the left. KIBe-E general setup grid will appear on the right and the keep-alive message parameter configuration will appear below it.
- Change any values, as necessary.
- Press "Send" for the equipment to accept the new configuration.

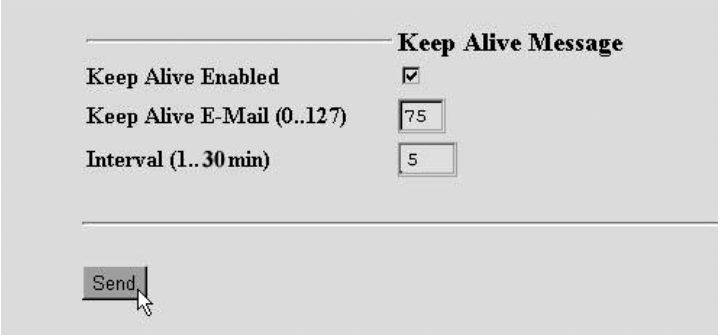


Figure 21 - Keep Alive configuration

2.2.3.3 Message Queue Management

KIBe-E manages a message queue for e-mail message transmission. The user can execute commands that will allow him to see the contents of the queue and manage the same. Message queue management commands are located in the command console.

- **Viewing the contents of the message queue:**

Message queue contents can be viewed from the console, by entering the **MAILBOX** command. KIBe-E will show you a list of pending outgoing messages.

```
>mailbox
E-mail   To                  Timestamp         Status
-------------------------------------------------------
   0     info@exemys.com     25/07/02 07:56:50   S
   1     user@greatdo.com    25/07/02 07:56:50   Q

>
```

The timestamp shows the date and time at which the message was added to the outgoing queue, which coincides with the time of occurrence of the event. As you can observe, the message number is also included.

The message status can be:
S: Sending. It means that the message is being sent.
Q: Queued. The message is in queue to be sent.
R: Retrying. It is retrying to send the message.

- **Eliminating the contents of the outgoing queue:**

At any time, the user can eliminate all the messages of the outgoing queue by using the EMPTY command.

```
>empty
Ok, no messages in the queue

>_
```

- **Forcing transmission of a message:**

If you wish to force delivery of one of the 128 messages you can use the **SEND:n** command.

```
>mailbox
E-mail   To                  Timestamp         Status
-------------------------------------------------------
   0     info@exemys.com     25/07/02 07:56:50   S
   1     user@greatdo.com    25/07/02 07:56:50   Q

>send:5
Queued Message 5

>mailbox
E-mail   To                  Timestamp         Status
-------------------------------------------------------
   0     info@exemys.com     25/07/02 07:56:50   S
   1     user@greatdo.com    25/07/02 07:56:50   Q
   5     support@exemys.com  25/07/02 07:58:50   Q

>_
```

2.2.4 E-Mail Reception

KIBe-E receives e-mail messages to execute commands. After a configurable interval, KIBe-E connects to a POP mail server and checks if an e-mail message has been received. There is a set of commands that can be entered in the message subject field. KIBe-E executes the command as soon as the message arrives and it can send another message notifying the success or failure of the operation.

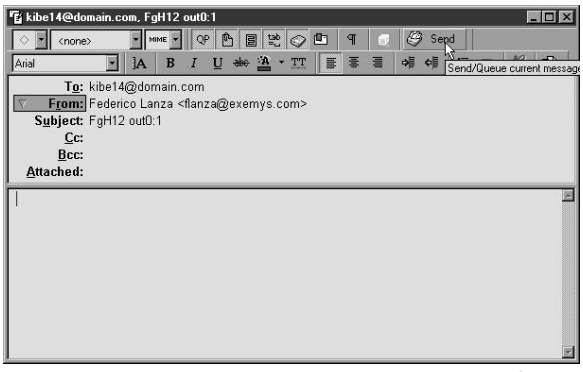


Figure 22 - Sending an E-Mail message to KIBe-E from an E-mail Client

To this end, KIBe-E has a POP3 client account that has to be duly configured.

2.2.4.1 POP3 Client Configuration

KIBe-E POP client is fully configurable.
POP client configuration parameters are included in table 7.

Table 7 - POP3 Client Configuration

Parameter	Description	Console Command
POP Enabling	If the POP client is enabled, it will connect to the server and check any incoming mail.	`POPENABLE:(E|D)`
POP Server	KIBe-E will connect to this POP server to receive e-mail messages.	`POPSERVER:(server)`
Maximum Timeout	If the message fails to be received in this period of time, KIBe-E considers that the message reception attempt has failed.	`POPTIMEOUT:(5..200)`
POP Server Check Interval	Period of time KIBe-E allows to elapse before making a new query to the POP server.	`POPINTERVAL:(10..10000)`
POP User	It is the POP user of the e-mail account that KIBe-E will check on the server.	`POPUSER:(username)`
POP Password	Password of the POP account on the server.	`POPPASSWORD:(password)`

On the web page:

- Select "POP Setup" from the menu on the left. KIBe-E POP server configuration grid will appear on the right.
- Change any values, as necessary.
- Press "Send" for the equipment to accept the new configuration.

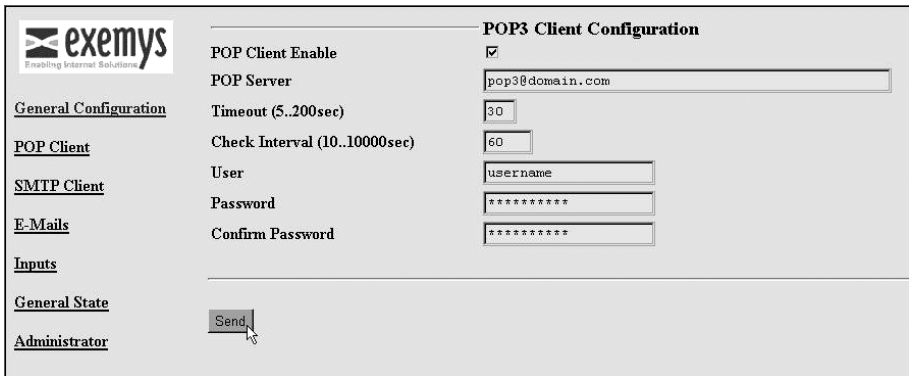


Figure 23 - POP Client Configuration page

2.2.4.2 General Syntax of POP Commands

Commands received in messages to be executed by KIBe-E must appear in the subject field. These commands follow a certain syntax. If the command is misspelled or the syntax is incorrect KIBe-E can not execute it.
The general syntax of commands is as follows: `[response,]password COMMAND`

- `password`: KIBe-E administrator password, if configured.
- `response`: Add this word if you want KIBe-E to send the response to this message to the sender's address. If the word "response" is not included, KIBe-E will only answer to the administrator, provided it has been configured.
- `command`: The command itself.

2.2.4.3 Changing the status of an output

If you want to change the status of an output, you can send an e-mail message to KIBe-E entering the OUT command in the subject field. The OUT command syntax is as follows: `OUTn:S`

- `n`: KIBe-E output, whose status is required to be changed.
- `S`: New status of the output (0 or 1).

Table 8 shows some examples of the use of this command.

Table 8 - Changing the status of an output

Command	Description
`response,FgH12 out0:1`	Administrator password is "FgH12". KIBe-E is requested to send a response to the sender of the original e-mail message and to the administrator. After execution, the status of output 0 will be high.
`FgH12 out2:0`	Administrator password is "FgH12". KIBe-E will only send the response to the administrator. After execution, the status of output 2 will be low.

2.2.4.4 Sending a pulse to an output

You can enter the PULSE command to send a pulse to a KIBe-E output during a certain period of time. The syntax of the PULSE command is as follows: `PULSEn:t`

- `n`: KIBe-E output number you want to send a pulse to
- `t`: time, in tenths of a second, of duration of the pulse.

2.2.4.5 Obtaining a report

You can use the STATUS command if you want KIBe-E to send you a report on the status of the equipment inputs / outputs. The syntax of the command is as follows: `STATUS`

The supervisor and/or the original sender of the message with the command will receive a message with a detailed report on the status of the inputs and outputs.

```
Inputs 0..7
0 0 1 0 1 1 0 1
Outputs 0..2
0 1 0

25/08/02 7:50:16
```

2.2.5 Other Operation Features

Certain basic operations can be carried out from the console, such as setting the time on KIBe, stopping the transmission and reception of messages and forcing the transmission of a dynamic e-mail message, among others.

2.2.5.1 Obtaining Help on Commands

To obtain help on a command, enter the command name followed by a question mark ("?"). The console will provide help on the command, the syntax and a description of the same.

```
>dynsend?
DYNSEND:... Forces transmission of the dynamic message
>_
```

In addition, there is a HELPn command that provides help on all commands. You must enter the help screen number you want to view.

```
>help3
SMTP configuration commands
  FSTSMTP:...      First SMTP Server (max 49 char.)
  SMTPENABLE:...   SMTP Enabling (E=Enable,D=Disable)
  SMTPAUTH:...     SMTP Authentication (E=Enable,D=Disable) (*)
  SMTPTIMEOUT:...  SMTP Timeout in seconds (10..150)
  SMTPRETRIES:...  SMTP Retries (3..10)
  SMTPRETRYINT:... SMTP Retries Interval in seconds(1..150)
  FROM:...         E-mail sender (max 49 char.)
```

(*) Only available in versions 2.1.9 and higher.

2.2.5.2 Date and Time

There are two commands to set the time and date on KIBe: TIME and DATE.
You can also change this settings from the web page. To change date and time setting from the web configuration page:

- Select "General State" from the menu on the left.
- Change any values, as necessary.
- Press "Send" for the equipment to accept the new settings.

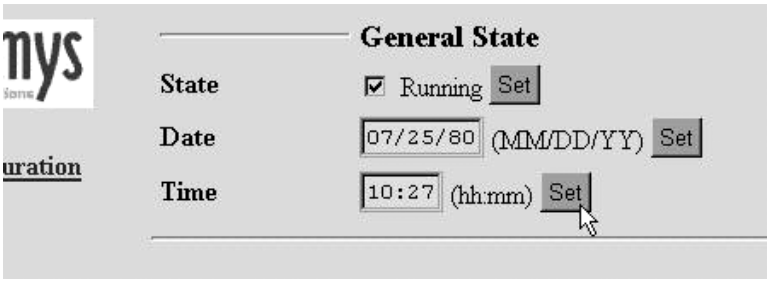


Figure 24 - Date and Time settings

Enter the commands in the console with the following syntax:

Table 9 - TIME and DATE commands

Parameter	Description	Command Console
Time	KIBe´s time	`TIME:(hh:mm:ss)`
Date	KIBe´s date	`DATE:(MM/DD/YY)`

KIBe-E will respond by sending a confirmation message notifying that the date/time has been changed.
If the **DATE** command is entered without specifying the date, KIBe-E will show the current date on the equipment. The same is applicable to the **TIME** command.

```
>time:15:02:00
Ok, Changed Time
>date 12/05/02
Ok, Changed Date
>date
12/05/02

>time
15:02:12

>_
```

2.2.5.3 KIBe-E Stop and Run

At any time, the user can stop message transmission and reception by means of the STOP and RUN commands. You can also make the KIBe-E run or stop from the configuration web page:

- Select "General State" from the menu on the left.
- Check the box to make KIBe-E run. Uncheck it to make KIBe-E stop.
- Press "Send" for the equipment to accept the new settings.

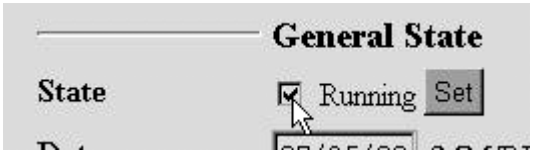


Figure 25 - Run / Stop KIBe-E operation.

To stop KIBe, simply enter the stop command in the command console. To restart operation, enter run.

```
>stop
Ok, stopped

>stop
The equipment it´s already stopped

>run
Ok, running
Dynamic Message Transmission
```

2.2.5.4 Dynamic Message Transmition

KIBe-E provides a means for the user to write an e-mail message and send it at any time, without the need for modifying one of the 128 configured messages.
First, you must configure the message using the DYNTO, DYNSUBJECT and DYNBODY commands. Then, the message is sent with the DYNSEND command, that places the dynamic message in the outgoing queue. The dynamic message is unique, and the user has to wait until it has been sent in order to send another message.

```
>dynto:info@exemys.com
Recipient: info@exemys.com

>dynsubject: This is the subject of our message.
Subject: This is the subject of our message.

>dynbody: Dynamic message body.
Message body: Dynamic message body.

>dynlist
Recipient
     info@exemys.com
Subject
     This is the subject of our message.
Message body.
```

```
     Dynamic message body.

>dynsend
Queued dynamic message.

>_
```

2.2.5.5 Viewing KIBe-E Configuration

The console has several commands that will enable you to visualize all the settings of KIBe. The commands that show the configuration are listed in table .

```
>list
    MAC          00-90-C2-80-0B-CA
    IP           192.168.0.105
    Netmask      255.255.255.0
    Gateway      192.168.0.200
    First DNS   192.168.0.200
    Second DNS 0.0.0.0
    Mode         STANDARD
>_
```

Table 10 - Viewing KIBe-E Configuration

Command	Description
`list`	Lists the general configuration of the equipment
`poplist`	Shows the POP client configuration
`smtplist`	Shows the SMTP client configuration
`inputlist`	Displays the inputs configuration and status chart
`outputlist`	Shows outputs status
`kalist`	Lists the keep-alive message configuration
`superlist`	Shows the Administrator configuration
`maillist`	Shows the configuration of an e-mail message
`dynlist`	Shows dynamic e-mail data
`mailbox`	Shows the outgoing queue status

Appendix A

A.Appendix

A.1. Device Locator Application

The Exemys Device Locator Application Program is intended to use for the basic configuration of any Exemys device over your ethernet network. It allows to search, identify and configure the basic network parameters.
This simple application program is distributed with any Exemys product in the accompanying CD. You can also download the latest version of this program from the Exemys Web Site (www.exemys.com).
The Device Locator application must be running from any PC within the network where the Exemys devices to configure are installed.

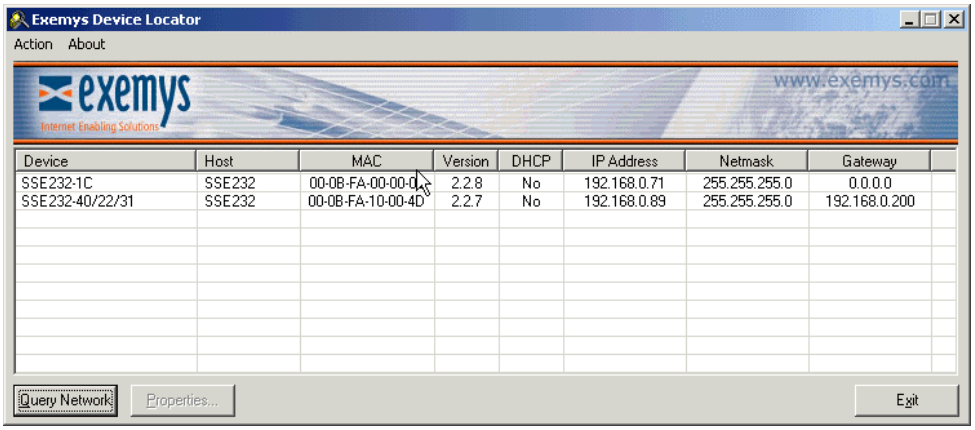


Figure 26 - Exemys Device Locator

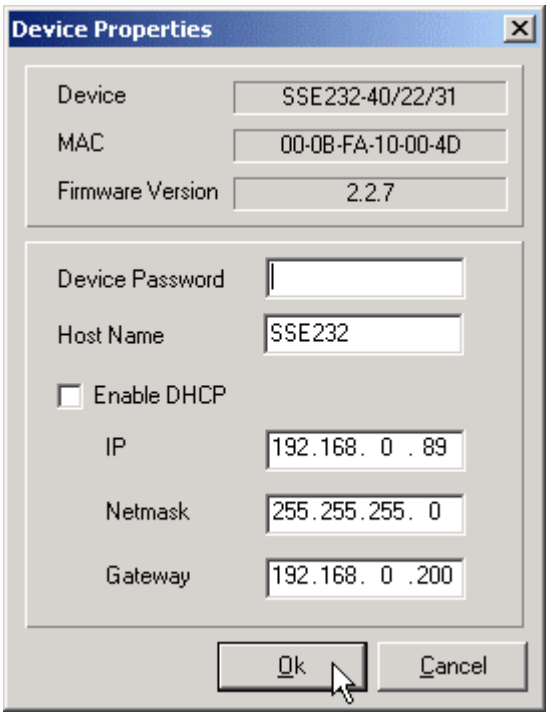
When the Device Locator is run for the first time it will search any Exemys device within the network. If there is an Exemys device in the network it will be shown in Device Locator Grid:

- Device: Device name, such as SSE232-ST or KIBe-E.
- Version: Firmware version it is running in that device.
- MAC Address: Hardware Ethernet Address of the device.
- IP: IP Address configured in the device

- Netmask: Subnet mask configured in the device
- Gateway: Gateway IP Address configured in the device.
- DHCP Lease: if "Yes", then the device network parameters where obtained from a DHCP server.

It is not necessary for the device to be properly configured. If the device is correctly connected and working, it will be found by the Device Locator Application Program.

To refresh the grid, click on the "Query Network" button. This action will make the device Locator to search any Exemys device in the network again.
You can change any of these basic network parameters within the Device Locator program.
To configure any Exemys device founded by the Device Locator:



- Select the device in the grid and click on the "Properties" button, or open the "Actions" menu and select the "Properties" command. You will see the Properties dialog box.
- All Exemys devices provides a Remote Configuration Password. This password is used for the Web configuration page and remote command Console in the device. Enter this password in the "Enter current password" box if the device has a configured password.
- You can type an IP Address, Netmask and Gateway IP Address or you can click on the "Use DHCP" check box to make the device search a DHCP Server.
- Click on the "Ok" button so the Device Locator sends this information to the device.

- If the password is not correct, the Device Locator will show a "**Error Response from MAC Address 00-0B-FA-XX-XX-XX**". The device will not respond any message send by the Device Locator software within the first 5 seconds after an incorrect password configuration attempt. This is to avoid any brute force method to change the network parameters of the device.
- If the device does not respond, the Device Locator will show a "**No Response from Device**" message. Make sure the device is turned on and connected to the ethernet network.
- The Exemys device will reset so the changes in the configuration take effect.
- Click on the "Close" button to close the Properties dialog box.

After a few seconds the device being reset will answer again to the requests of the Device Locator software. Click on the "Query network" button to refresh the grid and make sure the parameters were changed.

2.3 Indicator Leds Codes

KIBe-E features two indicator LEDs: A and B.
LED A is green and it shows the general working order of the equipment.
LED B is yellow and it indicates the general status of the outgoing message queue and the reception of e-mail messages.

Table 11 - Indicator Leds Codes

LED A (Yellow)	LED B (Green)	Description
It flashes alternately with LED B	It flashes alternately with LED A	Critical failure.
It is steady on		KIBe-E is searching for a DHCP server on the network.
It is ½ second on and ½ second off.		KIBe-E is waiting for an IP address configuration ping.
It blinks like a beacon, 90% of a second off and the remaining 10% on.		KIBe-E has an IP address and a carrier (link) on the connection. This is the normal operation status.
It is 90% of a second on and the remaining 10% off		It has no IP address and it could not find a DHCP server. It will search the DHCP server at 60-second intervals.
It blinks very fast.		Absence of carrier on the link.
	It is steady off	No messages in the outgoing queue.
	It is steady on	There are messages in the outgoing queue and they are being sent.
	It blinks very fast during two seconds	KIBe-E received an e-mail message.

A.2. Wall mounting

Remove the wall-mounting adapter (included) from the device.
Then mount the adapter to the wall using two screws, as shown in figure 27.

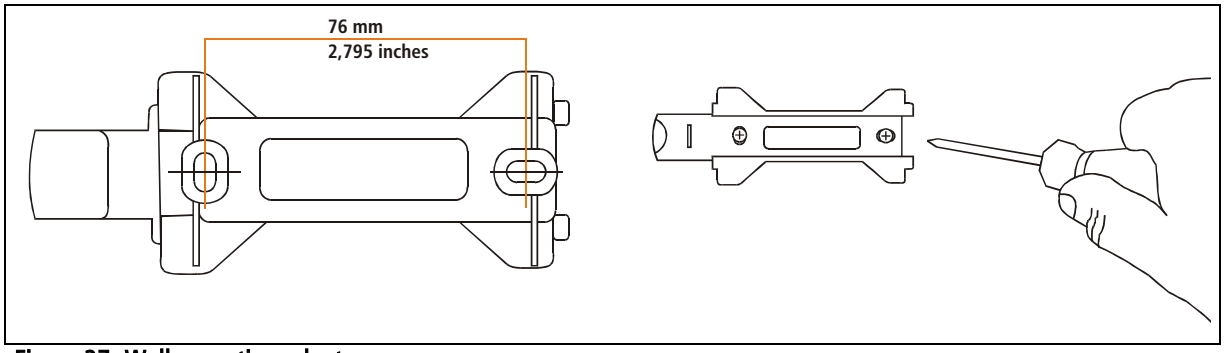


Figure 27- Wall-mounting adapter

Last, attach the device to the fixed adapter, as shown in Figure 28.

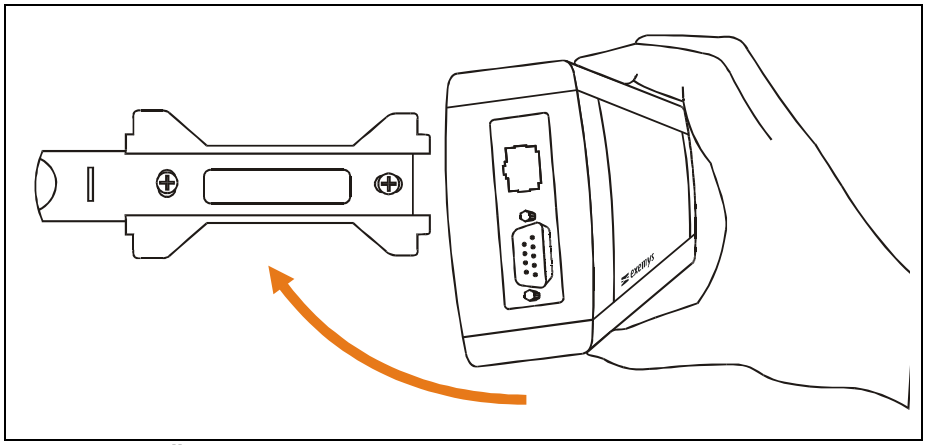


Figure 28 – Wall mounting

A.3. Console Commands

A.3.1. General Configuration Commands

FACTRESET
Description:
It resets the KIBe´s configuration to the factory default. It must be entered twice.
Syntax:
FACTRESET

IP

Description:
It changes the KIBe-E IP address. You must execute the END command to accept the new configuration.
Syntax:
IP:aaa.bbb.ccc.ddd
Example:
ip:192.168.0.101

NETMASK

Description:
It changes the KIBe-E netmask. You must execute the END command to accept the new configuration.
Syntax:
NETMASK:aaa.bbb.ccc.ddd
Example:
netmask:255.255.255.0

GATEWAY

Description:
It changes the IP address of the network gateway. You must execute the END command to accept the new configuration.
Syntax:
GATEWAY:aaa.bbb.ccc.ddd
Example:
gateway:192.168.0.200

FSTDNS

Description:
It changes the IP address of the first DNS server. KIBe-E will resolve the names using this server first.
Syntax:
FSTDNS:aaa.bbb.ccc.ddd
Example:
fstdns:192.168.0.200

SNDDNS
Description:
It changes the IP address of the second DNS server. If KIBe-E failed to resolve the name using the first DNS server, it will try to resolve it with this second server.
Syntax:
SNDDNS:aaa.bbb.ccc.ddd
Example:
snddns:192.168.0.150

END
Description:
It ends a command console session. If the IP, netmask and/or gateway were changed, the equipment will be restarted. If the command console is run from Telnet, communication with the equipment will be interrupted.
Syntax:
END

A.3.2. Input Configuration Commands

INPUTMODE
Description:
It changes the mode in which KIBe-E reads the inputs and triggers the e-mail messages. The mode may be standard or coded.
Syntax:
INPUTMODE:(S|C)
S = Standard
C = Coded
Example:
inputmode:c

INPUTTYPE
Description:
It changes an input type. It may be high-level active or low-level active.
Syntax:
INPUTTYPEn:(H|L)
n = Input number (0..7)
H = High-level active
L = Low-level active
Example:
inputtype2:H

INPUTSTARTEM

Description:
It changes the e-mail message to be triggered when an upward trend is detected at a high-level activated input or a downward trend is detected at a low-level activated input.
Syntax:
INPUTSTARTEMn:m
n = Input number
m = E-mail number (0..127)
Example:
inputstartem2:12

INPUTACTEM

Description:
It changes the e-mail message to be triggered after a delay at that input, provided the input remains active.
Syntax:
INPUTACTEMn:m
n = Input number
m = E-mail number (0..127)
Example:
inputactem2:14

INPUTENDEM

Description:
It changes the e-mail message to be triggered when a positive edge is detected at a low-level activated input or a negative edge is detected at a high-level activated input.
Syntax:
INPUTENDEMn:m
n = Input number
m = E-mail number (0..127)
Example:
inputendem2:16

INPUTDELAY
Description:
It changes an input delay to trigger a message due to the active status of an input.
Syntax:
INPUTDELAYn:D
n = Input number
D = Delay in tenths of second (0..10000)
Example:
inputdelay2:10

A.3.3. Keep Alive Configuration Commands

KAENABLE
Description:
It enables or disables the keep-alive e-mail message transmission.
Syntax:
KAENABLE:(E|D)
E = Enable
D = Disable
Example:
kaenable:e

KAEMAIL
Description:
It changes the number of message to be sent as keep-alive message.
Syntax:
KAEMAIL:m
m = E-Mail message number (0..127)
Example:
kaemail:120

KAINT
Description:
It changes the interval at which KIBe-E will send the keep-alive message. The interval is set in minutes.
Syntax:
KAINT:i
i = Keep Alive interval in minutes (1..30)
Example:
kaint:25

A.3.4. Administrator Configuration Commands

ADMINEMAIL
Description:
It changes the administrator's e-mail address.
Syntax:
ADMINEMAIL:(E-mail address)
Example:
adminemail:supervisor@domain.com

ADMINPASS
Description:
It changes the password of KIBe-E supervisor.
Syntax:
ADMINPASS:(New supervisor password)
Example:
adminpass:FgH12w

A.3.5. POP3 Client Configuration Commands

POPENABLE
Description:
It enables or disables KIBe-E POP3 client.
Syntax:
POPENABLE:(E|D)
E = Enable
D = Disable
Example:
popenable:d

POPSERVER
Description:
It changes KIBe-E POP3 server.
Syntax:
POPSERVER:(POP3 Server)
Example:
popenable:popserver.domain.com

POPTIMEOUT

Description:
It changes the maximum time out KIBe-E will wait for the POP server to send an e-mail message. The time is set in seconds.
Syntax:
POPTIMEOUT:t
t = Pop Timeout in seconds (5..200)
Example:
poptimeout:60

POPINTERVAL

Description:
It changes the interval at which KIBe-E checks if a new e-mail message has arrived at the POP Server. The time is set in seconds.
Syntax:
POPINTERVAL:i
i = Interval in seconds (10..10000)
Example:
popinterval:60

POPUSER

Description:
It changes the POP mail account user.
Syntax:
POPUSER:(User name)
Example:
popuser:user

POPPASSWORD

Description:
It changes the POP account password.
Syntax:
POPPASSWORD:(POP account password)
Example:
poppassword:Xbridge67

A.3.6. SMTP Client Configuration Commands

SMTPENABLE
Description:
It enables or disables the transmission of e-mail messages.
Syntax:
SMTPENABLE:(E|D)
E = Enable
D = Disable
Example:
smtpenable:e

SMTPAUTH (*)
Description:
Enables or disables SMTP authentication. Username and password required are those configured in the POP3 section.
Syntax:
SMTPAUTH:(E|D)
E = Enable
D = Disable
Example:
smtpauth:e
(*) Only available in versions 2.1.9 and higher.

SMTPSERVER
Description:
SMTP Server for outgoing e-mail.
Syntax:
SMTPSERVER:(SMTP Server)
Example:
smtpserver:smtp.domain.com

SMTPTIMEOUT
Description:
Maximum Time out allowed by KIBe. Once this time has elapsed, KIBe-E will consider that a transmission attempt has failed. The time is set in seconds.
Syntax:
SMTPTIMEOUT:t
t = SMTP Timeout in seconds (10..150)
Example:
smtptimeout:20

SMTPRETRIES
Description:
Maximum number of retries to send a message.
Syntax:
SMTPRETRIES:n
n = Number of Retries (3..10)
Example:
smtpretries:3

SMTPRETRYINT
Description:
Interval between retries. The time is set in seconds.
Syntax:
SMTPRETRYINT:t
t = Interval between retries in seconds (1..150)
Example:
smtpretryint:5

FROM
Description:
Sender's e-mail address for outgoing messages.
Syntax:
FROM:(E-mail address)
Example:
from:kibe41@domain.com

A.3.7. E-Mail Messages Commands

TO
Description:
It changes the recipient of an e-mail message.
Syntax:
TOn:(E-mail address)
n = Message number (0..127)
Example:
to5:george@domain.com

SUBJECT
Description:
It changes the subject of an e-mail message.
Syntax:
SUBJECTn:(Message subject)
n = Message number (0..127)
Example:
subject5:Subject of this message

BODY
Description:
It changes the body of an e-mail message.
Syntax:
BODYn:(Body of the message)
n = Message number (0..127)
Example:
body5:This is the body of message number 5

SEND
Description:
It forces the transmission of an e-mail message.
Syntax:
SEND:n
n = Message number (0..127)
Example:
send:5

DYNTO
Description:
It changes the recipient of the dynamic message.
Syntax:
DYNTO:(E-mail address)
Example:
dynto:john@domain.com

DYNSUBJECT
Description:
It changes the subject of the dynamic message.
Syntax:
DYNSUBJECT:(Message subject)
Example:
dynsubject:Message Subject

DYNBODY
Description:
It changes the body of the dynamic message.
Syntax:
DYNBODY:(Message body)
Example:
dynbody:Message Body

DYNSEND
Description:
It forces the transmission of the dynamic message.
Syntax:
DYNSEND

A.3.8. Operation Commands

DATE
Description:
It shows / changes the date on KIBe.
Syntax:
DATE:MM/DD/YY
Example:
date:02/15/02

TIME
Description:
It shows / changes the time on KIBe.
Syntax:
TIME:hh:mm:ss
Example:
time:18:10:00

RUN
Description:
It runs KIBe.
Syntax:
RUN

STOP
Description:
It stops KIBe.
Syntax:
STOP

EMPTY
Description:
It empties the outgoing queue.
Syntax:
EMPTY

OUT
Description:
It changes the status of an output.
Syntax:
OUTn:m
n = Output number
m = New status of the output (1|0)
Example:
out1:0

PULSE
Description:
It sends a pulse to an output.
Syntax:
PULSEn:m
n = Output number
m = Pulse duration, in tenths of a second (1..1000)
Example:
pulse1:10

A.3.9. List Commands

HELP
Description:
It shows a command help screen.
Syntax:
HELPn
n = Help screen number (1..9)
Example:
help3

LIST
Description:
It shows the general configuration of the equipment.
Syntax:
LIST

POPLIST
Description:
It shows the POP client configuration.
Syntax:
POPLIST

SMTPLIST
Description:
It shows the SMTP client configuration.
Syntax:
SMTPLIST

INPUTLIST
Description:
It shows the configuration and status of the inputs.
Syntax:
INPUTLIST

OUTPUTLIST
Description:
It shows the status of the outputs.
Syntax:
OUTPUTLIST

KALIST
Description:
It shows the keep-alive message configuration.
Syntax:
KALIST

MAILBOX
Description:
It shows the contents of the outgoing queue.
Syntax:
MAILBOX

ADMINLIST
Description:
It shows the Administrator's data configuration.
Syntax:
ADMINLIST

MAILLIST
Description:
It shows an e-mail message configuration.
Syntax:
MAILLIST:n
n = Message number (0..127)
Example:
maillist:8

DYNLIST
Description:
It shows the dynamic e-mail message.
Syntax:
DYNLIST

A.4. Default Configuration

This is the factory default configuration.

Table 12 - Default Configuration

Parameter	Value
IP	0.0.0.0
Netmask	0.0.0.0
Gateway	0.0.0.0
First DNS	0.0.0.0
Second DNS	0.0.0.0
Input Mode	Standard
POP Server	None
POP Enable	Disabled
POP Timeout	30 seconds
POP Check Interval	60 seconds
POP User	None
POP Password	None
SMTP Server	None
SMTP Enable	Disabled
SMTP Timeout	10 seconds
SMTP Retries	3
SMTP Retry Interval	5 seconds
SMTP From Address	None
Administrator Password	None
Administrator E-Mail	None
Keep Alive Enable	Disable

Keep Alive E-Mail	0
Keep Alive Interval	30 minutes
Inputs Type	Active High (for all inputs)
Start E-Mail Number	Disabled (for all inputs)
Activity E-Mail Number	Disabled (for all inputs)
End E-Mail Number	Disabled (for all inputs)
Input Activity Delay	0 (for all inputs)

A.5. Connectors Pinout

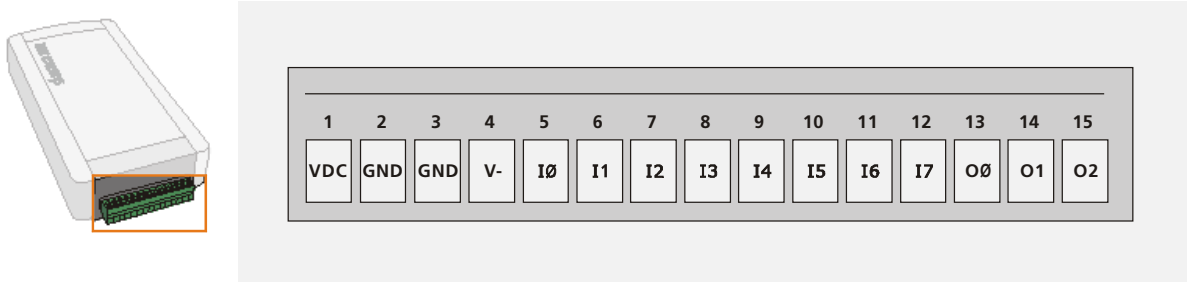


Figure 29 - KIBe-E Connector Pinout

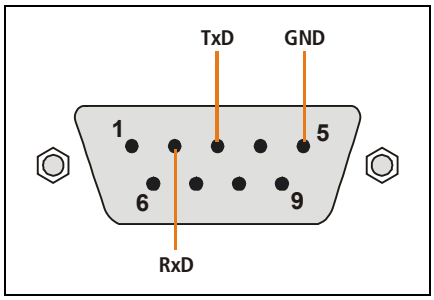


Figure 30 - RS-232 Connector Pinout

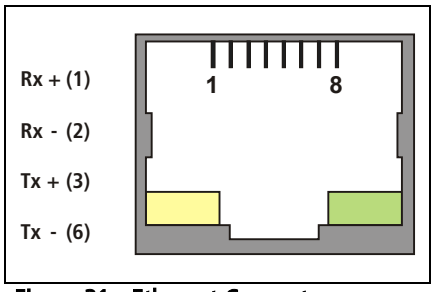


Figure 31 - Ethernet Connector

A.6. Technical Specifications

• **Network Protocols:**	TCP / IP, UDP, TELNET, HTTP, SMTP, POP3, DHCP, ICMP, ARP, DNS.
• **Network Interface:**	Ethernet 10 BaseT, RJ45 connector.
• **Serial Interface:**	RS232, Male DB9 connector (DTE) Additional RS232/485/422/ serial ports in pluggable terminal blocks.
• **Operation Modes:**	Standard (up to 24 e-mails), Codified (128 e-mails), Dynamic (unlimited).
• **Digital Input Report:**	Via Serial, Telnet or e-mail.
• **Digital Output Control:**	Via Serial, Telnet or e-mail.
• **Outbox Size:**	400 e-mails.
• **Flow Control:**	RTS / CTS.
• **Inputs / Outputs:**	Inputs: 3.5 to 28 Volts DC, 1 to 11mA max. Outputs: High drive, open collector, 3 to 45 Volts DC, 130 mA max. per channel. Industrial plugabble terminal blocks.
• **Management:**	HTTP Server, password protected. TELNET Console, password protected. Serial RS232 Console.
• **System Firmware:**	Downloadable via programming cable (optional).
• **Indicators:**	Status Led, Data/Link Led.
• **Dimension / Weight:**	1.70 x 6.82 x 3.31 in. (HxWxL). (43 x 173 x 84 mm). 0.52 Lbs (0.235 Kg).
• **Power supply:**	Must be from a Class 2 or LPS source. 9 to 26 Volts AC. 9 to 30 Volts DC. 200 mA max.
• **Environmental:**	Operating temperature: 23 to 149 ºF (-5 to 65 ºC). Storage temperature: -40 to 167 ºF (-40 to 75 ºC).
• **Optional Accessories:**	Programming cable.
• **Guarantee / Support:**	1-year guarantee. Technical Support included.